

D6

## PATENT ABSTRACTS OF JAPAN

(11) Publication number : 2003-159517A

(43) Date of publication of application : 03.06.2003

(51) Int.Cl.

B01D 63/02

B01D 53/22

B01D 71/64

(21) Application number : 2001-360895

(71) Applicant : UBE IND LTD

(22) Date of filing : 27.11.2001

(72) Inventor : TANIHARA NOZOMI

IKEDA YUKIO

KANATSUKI YUTAKA

## (54) HOLLOW FIBER SEPARATION MEMBRANE MODULE

## (57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a hollow fiber separation membrane module that improves pressure resistance of a tube plate.

**SOLUTION:** In the hollow fiber separation membrane module composed of a bundle of hollow fibers comprising at least a number of the hollow fiber separation membranes, the tube plate having the bundle of hollow fibers adhered and enclosed therein and a vessel accommodating those, the hollow fiber separation membrane module is characterized in that a pressurized-surface, which is a surface of the tube plate in contact with the vessel and is pressurized when it is used, has a taper so as that a tube plate diameter tapers off from a high pressure side toward a low pressure side and also, the taper has an angle of 25 degrees to 60 degrees against the direction pressurized to the tube plate. Further, the hollow fiber separation membrane module is characterized in that the tube plate has a peripheral portion with a thickness of 3 mm or more and without covering the bundle of hollow fibers at the periphery of the bundle of hollow fibers covered in the tube plate.

